Travaux du 19ème CIL | 19th ICL papers
Congrès International des Linguistes, Genève 20-27 Juillet 2013
International Congress of Linguists, Geneva 20-27 July 2013

19th International
Congress of Linguists
July 21-27 2013
Geneva - Switzerland

Orin PERCUS

University of Nantes , France
orin.percus@univ-nantes.fr

FID for the naïve

oral presentation in workshop: 108 Indexicals in Free Indirect Discourse (Anne REBOUL & Jacques JAYEZ)

Published and distributed by: Département de Linguistique de l'Université de Genève, Rue de Candolle 2, CH-1205 Genève, Switzerland
Editor: Département de Linguistique de l'Université de Genève, Switzerland
ISBN:978-2-8399-1580-9

O. Percus, University of Nantes / LLING EA3827
ICL 2013, Indexicals in Free Indirect Discourse
Rough transcript of talk presented 22.07.2013

In this talk I will present a position on F(ree) I(ndirect) D(iscourse) that I think could serve as a useful reference point in discussing more serious theories by more serious people.[1]

The position that I will present is simple, at least conceptually, but it breaks down in front of the question that this workshop is supposed to address, namely the question of how to treat indexicals in FID. So, on the one hand, it will show that the question is interesting. And on the other hand, if you are attracted to aspects of the simple position, it poses the question of exactly how much, or how, we need to depart from it in order to handle indexicals – I will make one very tentative suggestion.

1. F(ree) I(ndirect) D(iscourse) : the phenomenon.

The overall phenomenon is this. Sometimes, in a narrative, we find what is apparently a root clause used to describe the thoughts, perceptions, or utterances of a character (a protagonist, I will say) without a fully explicit indication in the sentence of who is thinking or perceiving or uttering those things. And these sentences are clearly not to be taken as direct quotes.

For example, take (1). Various factors might make it clear that *At last he was alone* here is not an assertion by the narrator. For example, the line could occur in a story in which it is clear that John was in fact *not* alone. In this kind of case, the sentence is used to describe John's thoughts, and what we learn from it is that his thoughts were such that, to express them, he could have said "At last I am alone."

(1) John watched as they turned the corner. He heaved a sigh of relief. At last he was alone.

> This line could occur in a story in which it is (or becomes) clear that John was not in fact alone.
> John's thoughts were such that he could have said: "At last I am alone."

You have other examples of the same kind of phenomenon in (2)-(4). The noteworthy pattern that emerges (in English) is that tenses and certain pronouns[2] are "from the narrator's point of view," so to speak, while pretty much all the rest is "from the protagonist's point of view."

Specifically, where tense is concerned, matrix tense in the FID sentence reflects the way the narrator would situate the time of the thinking of the reported thoughts. So a thought in the past that would have been expressed as "At last I am alone" gets communicated as *At last he was alone*. And, similarly, where pronouns are concerned, a thought that would have been expressed using the first person, again like "At last I am alone," gets communicated using instead a pronoun that reflects the way the narrator would refer to the thinker of the thoughts – *At last he was alone*. Apart from this, certain pronouns – first and second person pronouns – always reflect the narrator's point of view. The FID sentence *At last he was alone with me* reports a thought where the thinker thinks with regard to the narrator himself (or herself), "At last I am alone with him" (or "her").

---

[1] Practically no observations in this talk are original (except the wrong ones) !

[2] Possibly names as well. I will abstract away from this. The parenthesis "in English" is important because Sharvit has documented that Russian and Hebrew FID differ from English FID in that tense there seems to be "from the protagonist's point of view." I would speculate that these languages differ from English (see later discussion) in that they permit themselves to use FID sentences where the time argument of the verb goes unspecified, and which thus denote temporal properties -- the "present tense form" is thus not associated in these cases with a feature of the kind I assume for English present tense. Sharvit connects the Russian/Hebrew FID tense behavior to the fact that these languages are not S(equence) O(f) T(ense) languages, but Romanian data (O. Lungu pc) suggest that non-SOT behavior does not in general guarantee Russian/Hebrew FID tense behavior.

(2) John shuddered as the noises behind the door grew louder. Oh no -- the monster was restless again.

This line could occur in a story in which it is clear that there was no monster behind the door.
John's thoughts were such that he could have said: "The monster is restless again."

(3) John persisted in his questions. Would the treatment affect his heart condition?

This line could occur in a story in which it is clear that John is a hypochondriac and has no heart condition.
John posed the question: "Will the treatment affect my heart condition?"

(4) John closed his eyes again. This time there was a castle in front of him.

This line could occur in a story in which it is clear that there wasn't really a castle in front of John.
John's perceptions were such that he could have said: "There is a castle in front of me."

Tense

The form of tense in the matrix reflects the way the narrator would refer to the time of the thoughts (,…) that he is reporting.

In general, if we imagine the FID sentence as telling us about a (potential) sentence uttered by the protagonist, where the protagonist would use one tense form, the FID sentence uses another tense form where the tense locates the time of the protagonist's (potential) utterance with respect to the time of narration.

(1) … At last he *was* alone. [cf. "At last I *am* alone."]

Pronouns

If we imagine the FID sentence as telling us about a (potential) sentence uttered by the protagonist, where the protagonist would use the first person, the FID sentence uses the person form that is appropriate for the narrator to refer to the protagonist (generally, third).

(1) … At last *he* was alone. [cf. "At last *I* am alone."]

FID sentences always use first and second person pronouns to refer to the narrator and his addressee.

(1') … At last he was alone with *me*. [cf. "At last I am alone with …"]

Everything else in the FID sentence (abstracting away from names), we take as expressions that could have been uttered by the protagonist himself. So, in practice, we can imagine that we can arrive at the sentence that the protagonist could have uttered in order to express his thoughts by taking the FID sentence, and just replacing tenses and pronouns of the kind I mentioned.

This means that perspective terms, if there are any, will be in the "protagonist's sentence" and thus will reflect the protagonist's point of view rather than the narrator's. (For example, (5), taken as an FID sentence expressing John's thoughts, is bizarre if we understand the narrator to be in France but not John.)

(1) … *At last* he was alone. [cf. "At last I am alone."]

(5) John heaved a sigh of relief. So Mary was *coming* to France after all!

(6) John complained and complained. Mary wasn't being cooperative. And as for *me* / # *myself*, I wouldn't even give him the time of day.

Similarly, descriptions will be in the "protagonist's sentence" and thus "de dicto" :

(7) … # At last he was alone with the spy. ["At last I am alone with my boss."]

And other apparently indexical expressions like *today* and *tomorrow* will be part of the "protagonist's sentence" too:

(8) Pierre's hands shook as he read the headline. The emperor would arrive in Paris *tomorrow*! ["The emperor will arrive in Paris tomorrow!"]

(9) John heaved a sigh of relief. ?# So Mary would come to Geneva tomorrow ! (me today recounting last month's events) ["Mary will come to Geneva July 23!"]

2. But what is it?

That was a little survey of the phenomenon, but what exactly is going on when sentences of this kind are used to describe the thoughts or perceptions or utterances of a protagonist?

Let me be a little more precise.

The kinds of theories that I am used to assign a syntactic structure to a sentence, derive a semantic value on the basis of this structure, and then say something about how these forms and semantic values can be used. In the case of a sentence like *At last he was alone* outside FID, the sentence gets used by a speaker to assert that John (or whoever) was alone. But that is not what is happening in the case of FID. So what is different?

Here are a number of possibilities:

What is different between FID and non-? Some possibilities:

i. the syntax and semantics are the same but the pragmatics is different

Do we assign the same syntactic structure to the sentence and derive the same semantic value but just use the semantic value in a different way?

ii. the syntax and pragmatics are same but the semantics is different

Do we assign the same syntactic structure to the sentence but derive a different semantic value, maybe by interpreting tense and pronouns differently?

iii. the syntax is different

Do we assign a different syntactic structure to the sentence?

iv. …

This might just be a matter of taste, but my own preference is for a view on which, when it comes to FID sentences, the conventions for assigning structure and deriving semantic values are just the same as they are elsewhere, and FID just involves a difference in pragmatics. So you can see what I'm going to do now as a test of how far this view goes. I am going to try to describe FID without changing anything I believe independently about the syntax and semantics of the sentences involved, just by talking about rules of use. This is the Naïve View of FID:

> The Naïve View of FID.
>
> The syntax and semantics of FID sentences is just what we would imagine if there were no FID. What is special about FID has to do with principles that govern our use of these syntactic structures and semantic values.

As I said, it won't work, and the main problem has to do with the indexical adverbs like *tomorrow*; in a nutshell, I don't know of a reason from outside FID for treating them differently from other indexicals like *I* and *you*. But I think it's worth seeing how we would describe FID if those problematic adverbs didn't exist. So this is what I will do: I will cheat and forget about them, and present an account which corresponds to Naïve View of FID. Then afterwards I'll talk briefly about the problem.

Let me say one thing before I start, while we are in the conceptual section. I do think that one thing we should try to avoid in this enterprise of analyzing FID is changing what we thought about the syntax and semantics of sentences in *non*-FID contexts – in order then to make use of these changes in accounting for FID, say via the pragmatic approach. I think it would be very bizarre if we could only arrive at the right view of the syntax and semantics of sentences in non-FID contexts by considering FID. FID is a pretty recent invention, and when we acquire language, we are possibly not exposed to it at all. So I don't consider that route open.

3. FID as a pragmatic phenomenon: the general picture.

Since I am pursuing the view that FID is essentially a pragmatic phenomenon, here are a few words to set this up a bit.

FID is a phenomenon that we find in the context of narrative, like fictional narrative, and generally speaking what I imagine there is that we understand narrative in the following way: we accept (or pretend to accept) that there is a narrator who – somewhere, sometime, in some world – is recounting to a "listener"[3] facts about the world he inhabits. In FID, the narrator is using a sentence S to communicate the thoughts (or what-not) of an individual P at a time T' potentially different from the time T at which the narrator is using the sentence. So somehow, on the basis of S, the "listener" has to figure out who P is, when T' is, and what the relevant thoughts or perceptions are.

The idea now is that there are special principles of sentence use involved in FID that, if taken for granted by the "listener," enable him to arrive at this information. When in the case of (1) we come to the conclusion that P is John, that T' is a time preceding T that just follows the time at which "they" turn the corner, and that P could have uttered the sentence "At last I am alone" to express his thoughts at that moment, this is because we understand what those principles of use are.

[3] The narrator doesn't necessarily coincide with the author, and the "listener" and time of narration certainly do not really coincide with the actual reader and the time of reading.

In FID, a narrator N at time T in world W uses a sentence S to communicate the thoughts or perceptions or... of an individual P at time T' in W.[4]

On the basis of S, the "listener" is to arrive at an idea as to:

who P is;
when T' is;
and what the relevant thoughts or perceptions are.

There are special principles of sentence use involved in FID that, if taken for granted by the "listener," enable him to arrive at this information.

Example.

(1) John watched as they turned the corner. At last he was alone.

In the case of (1), we come to the conclusion that:

P is John;
T' is a time preceding T that just follows the time at which "they" turn the corner in W;
to express his thoughts at T', P could have uttered the sentence "At last I am alone."

4. FID as a pragmatic phenomenon: the basic idea to be explored.

What are these principles of use, then? The basic idea that I will pursue isn't so original – it follows Kaplan's discredited suggestion about the semantics of standard indirect discourse. (Please forget for now why Kaplan's suggestion has been discredited.) The idea is that a narrator uses S to say that, if the protagonist had uttered a sentence expressing his thoughts, in a certain sense the content of what he would have said given his own context of utterance is the same as the content of S given the narrator's context of utterance.

N uses a sentence at T in W to express that

the "content" of N's utterance at T in W is the "content" of P's thought at T' in W.

It is this rule that enables us to reconstruct the protagonist's thoughts once we have figured out who the protagonist is and when he was thinking. And, when it comes to reconstructing who the protagonist is and when he was thinking, this isn't so hard because of other rules that the narrator follows, which have the effect that he only uses descriptive material from his own point of view in such a way as to identify P and T'.

The listener's task.

<N,T,W> + S

ϕ

<$?_P$,$?_{T'}$, W> + ?

[4] Things get a bit more complicated in cases of "recursive FID" of the kind discussed by Doron; I will abstract away from these.

I will now elaborate this idea, assuming the Naïve View of FID, which says that the syntax and semantics of FID sentences is just what we would imagine if there were no FID. But this means that I have to say something about what independently of FID, I would take the syntax and semantics of FID to be. I will start by simplifying a bit. I will present some assumptions about syntax and semantics that will be easy to latch on to because they are pretty familiar, or can be seen as variants of familiar assumptions, and I will show how we would describe FID under these assumptions. The simplification is that these assumptions are not designed to account for perspective terms (in "ordinary" discourse), and so when it comes to describing FID I will ignore perspective terms. Then afterwards I will complicate the assumptions just a bit so as to incorporate perspective terms.

5. FID for the naïve (simplified version)

A. Some independent assumptions about the syntax and semantics of simple sentences (simplified)

"The syntax and semantics of FID sentences is just what we would imagine if there were no FID."

The major assumptions about syntax and semantics that I will be relying on now are as follows.

1. Semantic evaluation. I will be assuming (cf. Kaplan) that semantic evaluation is with respect to a "context" parameter, and that, when we take the syntactic structure of a sentence and evaluate it with respect to a context parameter, we get a proposition – a function from worlds to truth values. "Contexts" for me will be individual-time-world triples, and I will use the notation c^I, c^T and c^W to abbreviate the coordinates of a context c. Indexicals like *I* are words whose semantic value depend on the context parameter.

Example. For all c, $[[\text{I}]]^c = c^I$

Some notation: Since a parameter is just an argument that is passed up by most composition rules, I will use two different notations for this, according to my taste at the moment – one where we literally see a function from contexts, one where the context is represented in the traditional way as a superscript:

Notations: $[[\Sigma_{\text{I am happy}}]] = \lambda c_k.\ \lambda w_s.\ c^I$ is happy at c^T in w.

For all c, $[[\Sigma_{\text{I am happy}}]]^c = \lambda w_s.\ c^I$ is happy at c^T in w.

(Here I also use the notation "Σ_S" for "syntactic structure of S.")

By "content" I specifically mean the following: the syntactic structure of a sentence has as its content at c the proposition we get by evaluating it at c.

Terminology: $[[\Sigma_S]]^c$ is the "content" of Σ_S at c.

When a speaker X asserts a sentence S at T in W, what he is doing is using it to say that the "content" of Σ_S at <X,T,W> holds of W.[5]

[5] Or in other words that the "diagonal" of $[[\Sigma_S]]$ holds of <X,T,W>:

Terminology: λk_k: $[[\Sigma_S]]^k(k^W)$ is defined. $[[\Sigma_S]]^k(k^W)$ is the "diagonal" of $[[\Sigma_S]]$.

My assumption that there is a context parameter is not just motivated by tradition – there are specific linguistic facts that it is useful in explaining. Two are in the box below. An important thing to note there is that the explanations sometimes involve positing silent indexicals. For example, the potential presence of a silent world indexical in the description *my mother* can be held responsible for the contingent reading of *My mother gave birth to ME*. When I utter this, I can express the proposition that Ora gave birth to me (my mother's name is Ora), and the W* that you see in the structure is the culprit.

Some things this helps us understand:

i. Conditions on the interpretation of elided constituents.

(10) A utters at T1 in W: John hates me.
B replies at T2 in W: Mary doesn't ~~hate you~~.

What permits ellipsis in B's utterance is that $[[\text{hate you}]]^{<\underline{B},\underline{T2},W>} = [[\text{hate me}]]^{<\underline{A},\underline{T1},W>}$:

(10') a. $[[\text{ hate me }]]^c = \lambda x_e.\ \lambda w_s.$ In w, x hates $\mathbf{c^I}$.
b. $[[\text{ hate you }]]^c = \lambda x_e.\ \lambda w_s.$ In w, x hates **$\mathbf{c^I}$'s addressee at $\mathbf{c^T}$ in $\mathbf{c^W}$**.

ii. How "contingent readings" arise for sentences like (11).

(11) My mother gave birth to me / is *my* mother. (But things could have been otherwise.)

These readings are due to the presence of (silent) indexicals:

(12) a. $[[\ \mathbf{W^*}\ ]]^c = \mathbf{c^W}$
b. $[[\ [\text{the [my mother }\mathbf{W^*}\ ]]\ ]]^c$ = the mother of c^I in $\mathbf{c^W}$ "my mother"
c. $[[\ \Sigma_{(11)}\ ]]^c = \lambda w_s.$ The mother of c^I in $\mathbf{c^W}$ is the mother of c^I in w.

2. Tense. I assume that tense is the morphological reflex of a feature (*pres* or *past*) on the time argument of a verb…

(13) a. John loves Mary
b. [… [… pres] John love Mary] LF

(14) a. John left
b. [… [… past] John leave] LF

… and that this feature is indexical:

(15) a. For all c, $[[\text{ pres }]]^c = \lambda t_i$: t includes c^T. t
b. For all c, $[[\text{ past }]]^c = \lambda t_i$: t precedes c^T. t

The time-denoting expression to which the feature attaches could be unpronounced, like the T* that you see in (16); for concreteness, I will imagine that temporal adverbs can be interpreted in that position too, but of course you will forget about temporal adverbs for now.

(16) a. John loves Mary
b. 1 [w_1 [**T*** pres] John love Mary]
c. $[[\text{ (16b) }]]^c = \lambda w_s.$ In w, John loves Mary at $\mathbf{c^T}$.

Accordingly, viewing his doxastic alternatives as contexts, X believes what he says at that moment if the "diagonal" of $[[\ \Sigma_S\ ]]$ holds of all of his doxastic alternatives at that moment.

(17) a. John is in France today
b. 1 [w_1 [**today** pres] John in France]
c. [[(17b)]]^c = λw_s. In w, John is in France throughout **the day of c^T**.

(18) a. John left yesterday
b. 1 [w_1 [**yesterday** past] John leave]
c. [[(18b)]]^c = λw_s. In w, John left within **the day prior to c^T**.

3. Pronouns. Following lots of people, I will assume that pronouns are pronunciations of features that appear on individual-denoting expressions.

(19) a. He loves Mary
b. [… [… masc sg …] love Mary] LF

Since all we hear are the features, in principle that individual-denoting expression could be anything, and I will assume that we can have names or even full descriptions there.

(19) b'. [… [pro_1 masc sg …] love Mary] tradition, but once we accept that…
b''. [… [John masc sg …] love Mary] just as plausible

I will only specify gender features, which take a world argument, and guarantee for example in the case of *masc* that the individual next door is male in that world:

(20) a. For all c, [[masc]]^c = λw. λx: x is male in w. x
b. For all c, [[fem]]^c = λw. λx: x is female in w. x

The world argument could be a silent indexical but doesn't have to be; you see both possibilities in (21).

(21) a. He loves Mary.
b. 1 [w_1 [T* pres] [[John [**masc W***]] love Mary]
c. [[21b)]]^c is defined only if John is **male in c^W**.
Where defined, it is λw_s. In w, John loves Mary at c^T.
b'. 1 [w_1 [T* pres] [[John [**masc w_1**]] love Mary]
c'. [[21b')]]^c = λw_s: John is **male in w**. In w, John loves Mary at c^T.

B. The pragmatics of FID

With these assumptions in the background, I can spell out the pragmatic view of FID a little more precisely.

First, as far as what sentences get used to express, the view that I want to put on the table says this. A narrator who uses a sentence to communicate the thoughts of a protagonist is specifically using the sentence's semantic value to communicate the thoughts of a protagonist. The FID rule below says how, and it's just as I said before: N uses S at T in W to say that P, to express his thoughts at T' in W, could have uttered a sentence S' whose content at the context <P,T',W> is the same as the content of S itself at the context <N,T,W>.

P1. The FID rule.

A narrator N may use S at time T in world W to communicate the following:

P's thoughts (or...) at T' in W are such that, to express them, P could use a sentence S' whose semantic value applied to his *own* context <P,T',W> yields $[[\Sigma_S]]^{<N,T,W>}$.

(That is, $[[\Sigma_S]]^{<N,T,W>}$ constitutes the "content" of P's thoughts at T' in W.)

As an example, consider again example (1), *He was alone* -- I will forget about *at last* because I'm putting perspective terms aside for later. (What I say now is summarized in the box below.) In using (1), the narrator is describing *John*'s thoughts at a time we can call *U* which occurs just after the time at which they turned the corner. Moreover, let us accept that, in using (1), the narrator has in mind a structure which, evaluated at his own context, gives us the proposition that John is alone at *U*. Then it is consistent with the FID rule that John could have expressed his thoughts at *U* with the sentence *I am alone*, since *I am alone*, evaluated at <John, U, W>, gives us that same proposition that John is alone at *U*.

Example.

(1) John watched as they turned the corner. (At last) he was alone.

In this case (for reasons we will touch on below) we understand that N is concerned with *John*'s thoughts at a time we can call *U* which occurs just after the time at which "they" turned the corner in W.

We also understand that N has in mind a structure whose semantic value evaluated at <N,T,W> is λw. **John** is alone at **U** in w.

It then follows from P1 that, to express his thoughts at U, John could have used a sentence S' such that $[[\Sigma_{S'}]]^{<John,U,W>}$ = λw. John is alone at U in w.

I am alone is such a sentence: $[[\Sigma_{\text{I am alone}}]]$ is λc. λw. c^I is alone at c^T in w.

This part of the story was about what a sentence -- or more accurately a syntactic structure -- can get used to express when it's a matter of communicating the thoughts of a protagonist at a certain time. Another part of the story imposes constraints on a narrator as to *whose* thoughts he can communicate in this way, and as to just what kinds of syntactic structures he can use for this. When it comes to the constraints on syntactic structures, the idea will be that many of the peculiarities we noticed at the beginning about what terms reflect the narrator's point of view and what terms reflect the protagonist's point of view trace back to this. Below is a tentative statement of these constraints. Since they impose limits on what P and T' the narrator can target and what syntactic structure he can use, they will have the effect of helping the listener to reconstruct what P, T' and syntactic structure the narrator has in mind. So we can view them as functionally motivated.

P2. Salience constraint.

P and T' must be salient given the previous discourse (enough so to serve as values for anaphoric items in a non-FID sentence).

P3. Constraints concerning the use of indexicals.

a. (The largest) expressions referring to P and T' must indicate a connection to the context of evaluation.

(That is, those maximal expressions whose values with respect to <N,T,W> are P and T' must have semantic values that depend substantively on the context of evaluation in some way – for example, their semantic value might not be defined with respect to every context.)

b. With the exception of "lexical indexicals" (*I*, *you*, …), nothing outside an expression referring to P or T' can indicate a connection to the context of evaluation.

P2 is a very reasonable constraint that says that P and T' must be salient given the previous discourse, the kinds of things that could serve as values for anaphoric elements. P3 concerns where we can and must have indexicals in the structures that the narrator uses. The clauses of P3 say that the largest expressions referring to P or T' must contain indexicals -- which will have the effect of "anchoring" P or T' in the context of evaluation -- and moreover they say that that is the *only* place where we can put indexicals, apart from certain words like *I* and *you* which can go anywhere they like. These conditions are satisfied, for example, when, to talk about John's thoughts at *U*, the narrator uses the structure for *He was alone* in (22) below where X refers to *U* and Y refers to John. The largest expressions referring to *U* and John here are α with its indexical tense feature and β with its silent world indexical that provides masc's world argument. And there is no indexical anywhere outside α and β.

Example.

(1) John watched as they turned the corner. (At last) he was alone.

In this case we understand that N has in mind a structure of the general form in (22)

(22) 1 [w_1 [$_\alpha$ X past] [$_\beta$ Y masc W*] alone]

where $[[\alpha]]^{<N,T,W>}$ is *U* and $[[\beta]]^{<N,T,W>}$ is John.

Probably more specifically it is of the form

(22') 1 [w_1 [... past] [**John** masc W*] alone]

Here, P3a is satisfied because *past* guarantees that $[[\alpha]]^c$ is earlier than c^T and *masc W** guarantees that $[[\beta]]^c$ is male in c^W.

P3b is satisfied because there are no indexical expressions at all outside α and β.

Also, P2 is satisfied because John and *U* are salient enough given the previous discourse.

What you can probably see is that it now follows from these conditions that matrix tense will be used to situate T' with respect to T. (This is because tense features are indexical and the feature together with its sister will have to refer to T', there being no more inclusive time- or individual-denoting expression from which we could derive T' or P.) It also follows that we will have no "de re descriptions" of anyone except P. You can see this by considering example 2a in the "Some applications" box below (this box also contains other examples that you can look at to get an impression of what the system as a whole excludes). Suppose John didn't know that Jane – the

woman seated next to him – was Bill's sister. In that case N could not use *He was alone with Bill's sister* to express that John thought "I am alone with the woman seated next to me." Now, the FID rule *taken alone* would permit N to use the sentence that way. This is because, if we consider a structure like the one given where *the sister of Bill* contains a silent world indexical, its content at the narrator's context of utterance would be the same as the content of *I am alone with the woman seated next to me* at the context relevant for John – we would get the proposition that John is alone with Jane at that past moment. However, once we add the constraints on indexicals, we lose this possibility: the silent indexical in *the sister of Bill* is not contributing to an expression that refers to John (or to his time of thought).

Some applications.

1. Suppose John thought he was female. Could N instead have used the structure

1 [w_1 [X past] [Y **fem w_1**] alone] "(At last) she was alone"

which evaluated at <N,T,W> would yield

λw: John is female in w. John is alone at U in w.

to express that John could have expressed his thoughts with the sentence *I am alone* ? No: the semantic value of *I am alone* would not yield this content (with the domain condition).

2. a. Suppose John didn't know that Jane – the woman seated next to him -- was Bill's sister. Could N use the structure

1 [w_1 [X past] [Y masc W*] alone with [**the sister W* of Bill**]]

"(At last) he was alone with Bill's sister"

which evaluated at <N,T,W> would yield

λw. John is alone at U with Jane in w.

to express that John thought "(At last) I am alone with the woman seated next to me" ?
No: this would violate P3b.

b. Variant: Suppose John didn't know that Jane was his *own* sister. Could N use the structure

1 [w_1 [X past] [Y masc W*] alone with [**the sister W* of [Y masc W*]**]]

"(At last) he was alone with his sister"

to express that John thought "(At last) I am alone with the woman seated next to me" ? No for the same reason.

3. Suppose John (unbeknownst to him) is Mary's brother. Could the narrator instead have used the structure

1 [w_1 [X past] [**the brother W* of Mary**] alone]

"(At last) Mary's brother was alone."

which evaluated at <N,T,W> would yield

λw. John is alone at U in w.

to express that John thought "(At last) I am alone" ? Nothing mentioned so far excludes this -- but in cases where there is a salient antecedent that permits pronominal reference, we often prefer using a pronoun to using a definite description.

How an approach like this would see what we are doing when we read (1):

We entertain the hypothesis that this is FID.

Since John and *U* are salient given the prior discourse, (thinking about P2) we entertain the hypothesis that P is John and that T' is *U*.

Then we partially reconstruct the structure of the sentence.

1 [w_1 [X past] [Y masc ...] alone]

Since this is FID, we reason (thinking about P3) that X refers to T', and thus to *U*.

This reduces the possibilities for what the structure and thus the semantic value of the sentence is, and the rest involves reasoning about what it would be reasonable to imagine as the content of John's thoughts at *U*. Given that it is reasonable to imagine that λw. John is alone at U in w is the content of John's thoughts at U, we fill in the rest of the structure in such a way as to give us this result:

1 [w_1 [X past] [Y masc W*] alone] where Y refers to John.

(If there were other salient individuals or other reasonable descriptions that suggested themselves, that would yield propositions naturally viewed as the content of the thoughts of a salient person, we might have filled in the structure differently.)

6. FID for the naïve (unsimplified)

A. Enhanced assumptions about the syntax and semantics of simple sentences

My assumptions about syntax and semantics thus far were simplified in that I abstracted away from the resources that I think we need in order to account for (a certain class of) perspective terms. I would like to bring those up now.

Come is an example of the kind of term that I have in mind here. Take a sentence like *John will come to Geneva tomorrow*. It has complicated conditions on its use. It sounds OK if uttered by someone who is in Geneva at the time of utterance or who expects to be the next day. But it would sound odd if both speaker and addressee were in New York, say. Or at least most of the time it would: if B asked A in New York why Mary, who is in Geneva, is happy, A *could* reply "Because John will come to Geneva tomorrow," and it would sound fine. One way of seeing these facts is as follows: speakers may assume the perspective of other individuals; we naturally imagine that speakers assume the perspective of their addressees, but less naturally imagine other candidates for the "perspective site"; the sentence *John will come to Geneva tomorrow* requires the speaker's "perspective site" to be in Geneva at the time of utterance or the following day.

My position on perspective terms – at least where some of them are concerned – is that their treatment involves a second context parameter. (So this is a sort of relativistic semantics, of a familiar kind.) Terms like *come* introduce a dependency on their second parameter, the "d" parameter if you look at the summary below. For example, *John will come to Geneva at 2pm tomorrow* can only be evaluated with respect to a "d-parameter" whose individual coordinate is in Geneva in the world coordinate at the time coordinate or at 2pm one day later. When a speaker X asserts a sentence S at T

in W adopting the perspective of an individual Y at T' in W, he is saying that the structure of S evaluated at his own context of utterance <X,T,W> and also at the "perspective context" holds of W. In a case where he isn't adopting anyone else's perspective, he is just using his own context again as the "d-context" and in that kind of case I will say that he is "adopting his own perspective."

1'[6]. Semantic evaluation. Semantic evaluation is with respect to *two* context parameters. The second (the "d" parameter) is relevant for perspective terms.

Notations:

For all c,d, $[[\ \Sigma_{\text{John will } \mathbf{come} \text{ to Geneva at 2pm tomorrow}}\ ]]^{c,\mathbf{d}}$
is defined only if $\mathbf{d^I}$ is in Geneva in $\mathbf{d^W}$ at $\mathbf{d^T}$ or at 2pm on the day after c^T.
Where defined, it is λw_s. John arrives in Geneva in w at 2pm on the day after c^T.

$[[\ \Sigma_{\text{John will come to Geneva at 2pm tomorrow}}\ ]]$
$= \lambda c_k.\ \lambda d_k$: $\mathbf{d^I}$ is in Geneva in $\mathbf{d^W}$ at $\mathbf{d^T}$ or at 2pm on the day after c^T.
λw_s. John arrives in Geneva in w at 2pm on the day after c^T.

A speaker X at T in W who adopts the perspective of an individual Y at T' in W uses a sentence S to say that $[[\ \Sigma_S\ ]]^{<X,T,W>,\underline{<Y,T',W>}}$ holds of W.

In a case where X does not adopt anyone else's perspective, he uses S at T in W to say that $[[\ \Sigma_S\ ]]^{<X,T,W>,<X,T,W>}$ holds of W, and we can say that he "adopts his own perspective."[7]

(We naturally take the individual whose perspective X adopts to be X himself or his addressee if there are no clear indications otherwise.)

Other examples.

$[[\ \Sigma_{\text{Physicists like my-}\mathbf{self}\text{ are a godsend}}]]$ logophoric *self* (Ross, Kuno, …)
$= \lambda c_k.\ \lambda d_k$: $\mathbf{d^I} = c^I$. λw_s. Physicists like c^I are a godsend in w at c^T.

$[[\ \Sigma_{\text{Taro-ga Hanako-o tasukete-}\mathbf{kure}\text{-ta}}]]$ empathy markers (Kuno, Oshima,…)
$= \lambda c_k$:... λd_k: $\mathbf{d^I}$ = Hanako. λw_s. Taro helps Hanako at ... in w.

As with the first context parameter, I think that there are linguistic facts that motivate the use of a d-parameter. There is a summary in the box below. For one thing, positing a d-parameter dependence for a variety of terms explains why, when they appear in the same simple sentence, their associated perspective sites have to be the same. For another, positing a d-parameter allows a straightforward account of a kind of perspective shift under attitude verbs. *Mary thought that John would come to Geneva July 20*, for example, seems to imply that Mary thought she was in Geneva at the time or would be July 20, and we need a convenient way of accounting for this fact together with the facts about simple sentences with *come*.

---

[6] All other assumptions stay the same! (Just add a "d.")

[7] A speaker X who "adopts his own perspective" at T in W thus uses S to say that the "3D diagonal" of $[[\ \Sigma_S\ ]]$ holds of <X,T,W>, and believes what he says at that moment if the "3D diagonal" of $[[\ \Sigma_S\ ]]$ holds of all of his doxastic alternatives at that moment.

Terminology: $\underline{\lambda k_k}$: $\underline{[[\ \Sigma_S\ ]]^{k,k}(k^W)\text{ is defined. }[[\ \Sigma_S\ ]]^{k,k}(k^W)}$ is the "3D diagonal" of $[[\ \Sigma_S\ ]]$.

Some things this helps us understand:

i. Why "perspective consistency" is enforced across a class of terms in simple sentences

(23) Mary has something to be happy about. Someone just like her**self** will be **coming** to the conference tomorrow.

In my judgment, odd (though not pragmatically implausible) if Mary is far away and will be tomorrow too, but OK if she is or will be at the conference.

(24) a. Taro **CAME** to Hanako's to deliver the book to her^{E}. (Oshima on Japanese)
(Hanako is empathy-marked via the benefactive ***kureru*** auxiliary.)
b. ?? Taro **WENT** to Hanako's to deliver the book to her^{E}.

This is explained if the terms in question impose conditions on the same **d**-parameter:
In (23), *self* requires $\mathbf{d^I}$ to be the referent of *her* and *come* requires that $\mathbf{d^I}$ be at the relevant location either at $\mathbf{d^T}$ or at the event time.
In (24), *kureru* requires $\mathbf{d^I}$ to be Hanako and, while COME requires that $\mathbf{d^I}$ be at the relevant location either at $\mathbf{d^T}$ or at the event time, GO requires that this *not* be the case.

ii. "Perspective shift" under attitude verbs.

(25) Mary thought that John would come to Geneva July 20.

(25) implies that *Mary thought she* was in Geneva at the time or would be July 20.

We can attribute this to shifting of the "d-parameter" in the context of *think*:

[[John woll **come** to Geneva July 20]]$^{c,\mathbf{d}}$
is defined only if $\mathbf{d^I}$ is in Geneva in $\mathbf{d^W}$ at $\mathbf{d^T}$ or throughout July 20.
Where defined, it is
λt: t precedes July 20. λw. In w, within July 20, John arrives in Geneva.
(25) states that the triples that constitute Mary's doxastic alternatives are all in
{ k: [[John woll come to Geneva July 20]]$^{c,\mathbf{k}}(k^T)(k^W) = 1$ }, thus in
{ k: $\mathbf{k^I}$ is in Geneva in $\mathbf{k^W}$ at $\mathbf{k^T}$ or throughout July 20 and k^T precedes July 20 and, in k^W, within July 20, John arrives in Geneva.}

In what follows, I won't worry specifically about *come* or the other perspective terms that I considered in this introduction (logophoric *self*, Japanese empathy expressions). It was just important for me to introduce the d-parameter. In general, I imagine that the contribution of perspective terms is to place conditions on what the d-parameter can be, and for convenience I will treat *at last* that way since I have been using examples with *at last*. Simplifying, I will just imagine that *at last* combines with a temporal property and a time, and introduces the condition that the perspective holder is relieved that the temporal property holds of that time. In other words, it introduces a condition on the d-parameter of evaluation that the d-parameter's individual coordinate is relieved -- at the time coordinate in the world coordinate – that the temporal property holds at that time:

(26) For all c, d, [[at last]]$^{c,\mathbf{d}}$ (sketch!!)
$= \lambda p_{<i,st>}. \lambda t$: p(t) is defined and d^I is relieved at d^T in d^W that p(t) is true. p(t)

So now a sentence like *At last he was alone* will have a semantic value like (27c), with the additional condition on the d-argument that d^I is relieved at d^T in d^W that the individual *he* refers to is alone at the time that the past tense refers to. And a sentence like *At last I am alone* will have a semantic value like (28c), with the additional condition that d^I is relieved at d^T in d^W that c^I is alone at c^T.

(27) a. At last he was alone

b. 1 [w_1 [$_\alpha$ X past] [at last [$_\beta$ Y masc W*] alone]]

c. For all c, d, [[(27b)]]$^{c,\,\mathbf{d}}$ is defined only if [[X]]$^{c,\,\mathbf{d}}$ precedes c^T, [[Y]]$^{c,\,\mathbf{d}}$ is male in c^W, and $\underline{\mathbf{d^I} \text{ is relieved at } \mathbf{d^T} \text{ in } \mathbf{d^W} \text{ that [[Y]]}^{c,\,\mathbf{d}} \text{ is alone at [[X]]}^{c,\,\mathbf{d}}}$.

Where defined, we have: $\lambda w.$ [[Y]]$^{c,\,\mathbf{d}}$ is alone at [[X]]$^{c,\,\mathbf{d}}$ in w.

(28) a. At last I am alone

b. 1 [w_1 [T* pres] [at last I alone]]

c. For all c, d, [[(28b)]]$^{c,\,\mathbf{d}}$ is defined only if $\underline{\mathbf{d^I} \text{ is relieved at } \mathbf{d^T} \text{ in } \mathbf{d^W} \text{ that } c^I \text{ is alone at } c^T}$.

Where defined, we have: $\lambda w.$ c^I is alone at c^T in w.

Now imagine as before that, in *At last he was alone*, *he* refers to John and the past tense refers to *U*. What is the relation between *At last he was alone*, uttered by N at T in W to talk about John at *U* in W, and *At last I am alone*, as uttered by John at *U* in W ? Well, it's basically as before. When you apply the semantic value of the sentence to the "context of utterance," you get the same thing in both cases. We can say if you like that they have the same "perspectival content." Perspectival content is what you get when you apply the semantic value of the sentence to the "context of utterance" -- now a function from contexts to propositions rather than just a simple proposition.

Terminology:

Σ_S has a "perspectival content" in c when there is a k such that [[$\underline{\Sigma_S}$]]$^{c,\mathbf{k}}$ is defined. In that case, the "perspectival content" of Σ_S in c is $\underline{\lambda k\text{: [[}\Sigma_S\text{]]}^{c,\mathbf{k}} \text{ is defined. [[}\Sigma_S\text{]]}^{c,\mathbf{k}}}$.

Examples.

If in (27b) [[X]]$^{<N,T,W>, \ldots}$ = *U* and [[Y]] $^{<N,T,W>, \ldots}$ = John (and the former precedes T and the latter is male in W) then the "perspectival content" of (27b) in <N,T,W> is

λk: k^I is relieved at k^T in k^W that John is alone at *U*.
$\lambda w.$ John is alone at U in w.

The "perspectival content" of (28b) in <John,U,W> is the same.

So it seems that, once we make this revision to our assumptions about syntax and semantics, and incorporate perspective terms, we don't have to change anything in our view of FID. We can formulate the FID rule in the same way: …

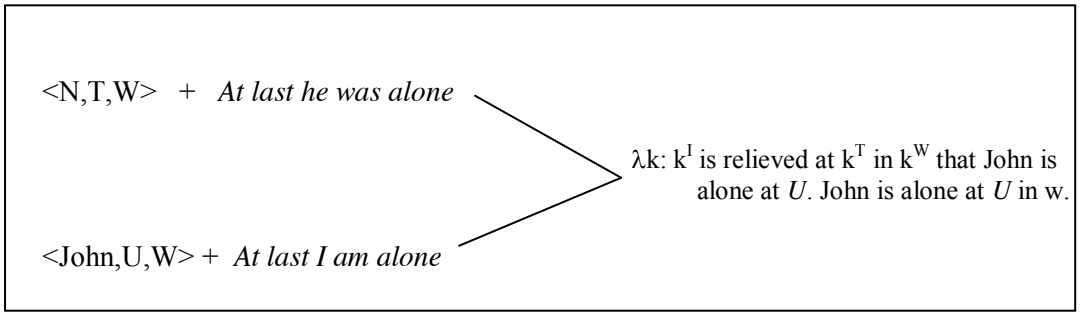
B. The revised pragmatics of FID[8]

... a narrator uses S to say that the semantic value of S applied to *his own* context gives us what we would get by taking the semantic value of P's sentence S' and applying it to *his* context. This is convenient. We just seem to have to add one little thing: that P would use S' adopting his *own* perspective. This is because the "At last I am alone" thought reported with *At last he was alone* necessarily conveys *John*'s relief at being alone.

P1. A narrator N may use S at time T in world W to communicate the following:

P's thoughts (or...) at T' in W are such that, to express them, P could use* a sentence S' whose semantic value applied to his *own* context <P,T',W> yields $[[\Sigma_S]](<N,T,W>)$.

* adopting his own perspective



7. Problems

Now that I have fleshed out the Naïve View of FID as much as I want to, we can consider the problems. There are problems and there are BIG problems (to be discussed in the next section). As far as the problems are concerned, they can unsurprisingly be seen as analogous to problems that have been raised for Kaplan's view of standard indirect discourse.

Generally speaking, the nature of these problems is that our intuitions about what the "protagonist's sentence" S' is in FID go beyond the fact that it is related to the narrator's sentence S in the way the FID rule says (namely, that $[[\Sigma_{S'}]]^{<P,T',W>} = [[\Sigma_S]]^{<N,T,W>}$). So, in one way or another, it seems that the FID rule has to be made more specific, hopefully not in too ugly a way.

It seems that the FID rule as stated does not say enough either about the semantic value of the "protagonist's sentence" or about its form.

First, as regards the semantic value, the current formulation misses the fact that, in places where the narrator's sentence has a pronoun referring to the protagonist, we always imagine that the protagonist's sentence would use *I*.[9] For example, consider the following discourse:

[8] All the rest is the same. (But read "context of evaluation" as the "c" context.)

(29) In which John fails to recognize himself.

…

It never occurred to John that those figures that he saw in the distance were just reflections in a glass building. He looked a little more carefully. There were two young men, accompanying a shadowy third individual whose details were difficult to discern. Not for a moment did it cross his mind that he was really looking at his two young assistants and himself. On the contrary, that person in the company of the two young men seemed to him to be wearing a long dress and not an overcoat; and dangling to the side he saw a handbag, not a briefcase.

There was something very suspicious about that shadowy figure. John was certain that, if the two young men were ever to take their leave, something significant would happen. At a certain point, sure enough, the two young men turned around and walked off in the other direction. John held his breath. # At last he was alone. What was he going to do? [better: "she"]

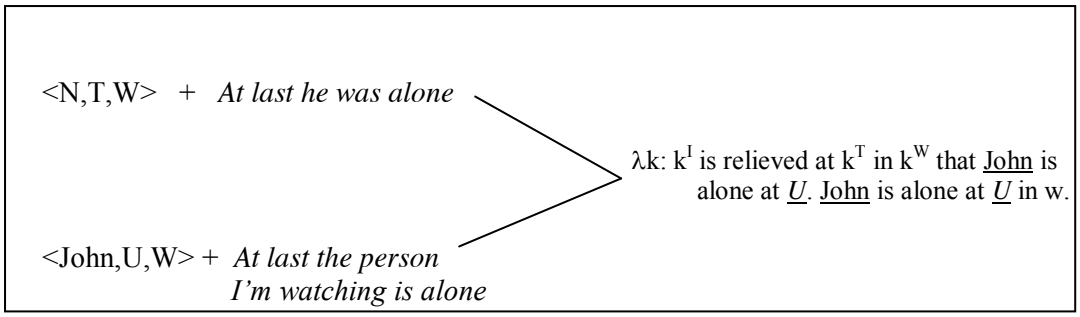
The FID rule as stated permits *At last he was alone* here to report a thought of John's like "At last the person I'm watching is alone." Given that the semantic value of *the person I'm watching* (with silent indexical elements, cf. (30)) with respect to John's context is John himself, *At last the person I'm watching is alone* evaluated at John's context will give us just what *At last he was alone* gives us with respect to the narrator's context. But *At last he was alone* here cannot report the thought "At last the person I'm watching is alone." So in cases like this the FID rule clearly overgenerates.

(30) a. At last the person I'm watching is alone.

b. [1 [w_1 [T* pres] [at last [the person W* ... I watch T* W* ...] alone]]

c. [[(30b)]] = λc: There is a unique person in c^W who c^I is watching at c^T in c^W.
λd: $\mathbf{d^I}$ is relieved at $\mathbf{d^T}$ in $\mathbf{d^W}$ that the unique person in c^W who c^I is watching at c^T in c^W is alone at c^T.
λw. The unique person in c^W who c^I is watching at c^T in c^W is alone at c^T in w.

Since the unique person in $\langle John,U,W\rangle^W$ who $\langle John,U,W\rangle^I$ is watching at $\langle John,U,W\rangle^T$ in $\langle John,U,W\rangle^W$ is John:



[9] It is also the case that we always imagine that P's sentence would substitute present tense for the matrix tense found in S. This, however, is less surprising given the analysis thus far. Simplifying and imagining the initial system, consider the FID sentence *At last it was dark*, used to describe a thought of John's at *U*. Given that the content is λw. It is dark at *U* in w, arguably we will try to reconstruct a sentence whose semantic value is "of the form" λc: … λw. It is dark at f(c) in w, where f(<John,*U*,W>) = *U*. But the only way of arriving at this result if f(c) is the contribution of the tensed argument is if the tense is *present* : if the tense were *past*, f(<John,*U*,W>) would precede *U* !

Then there are the issues regarding the form of the "protagonist's sentence." It is pretty well established that, in cases where the FID sentence reports an actual utterance that the protagonist made, we understand the form of the FID sentence as being "quite close" to the form of the sentence that was uttered. In the literature, this is referred to as "faithfulness" to the form of the uttered sentence. For example, given a discourse like (31) below, we are far more likely to imagine that John yelled "I am Mary's parent!" than to imagine that he yelled "Mary is my child!"

(31) John yelled at them, livid with rage. How could they do this to him? He was Mary's parent!

Exactly how to define "quite close" is tricky. John might have yelled in French, for example, and then we are more likely to imagine that he yelled « Je suis le parent de Marie ! » than that he yelled « Marie est mon enfant ! »). But, if we can do it, this does not seem like a devastating problem for the approach I have been presenting. We could for example reformulate the FID rule in such a way as to make reference to very similar sentences:

P1'. A narrator N may use S at time T in world W to communicate the following:

> At T' in W, P uttered (possibly to himself) a sentence S' "very close to" S whose semantic value....

I should note that this could potentially solve our first problem as well, if *At last the person I'm watching is alone* does not count as sufficiently close to *At last he is alone*. And it could potentially solve other problems too. We can have FID sentences that report utterances of sentences whose content is a tautology or a contradiction, it is very clear to the reader what forms these tautologies or contradictions took, and the FID rule obviously gives us no way to reconstruct that:

(31') John rattled off all the contradictions he could think of. Men were not male. Women were not female. Bill wasn't Bill. Mary wasn't Mary. ...

These were problems that one could take just to suggest that the FID rule should be refined, but now we get to the BIG problem ...

8. Big problems: differing behaviour among indexicals.

Without any consideration of FID, we would be led to treat not only *I*, *you* and tense features, but also all kinds of other things – adverbs like *today* and *tomorrow*, for example – as having values that depend on the c-parameter. For example, they don't "shift" under *think* like items that we would view as dependent on the d-parameter.[10]

(32) John thought that { today, tomorrow} would be a holiday.

(33) a. For all c,d, $[[\text{ today }]]^{c,d}$ = the day of c^T.

b. For all c,d, $[[\text{tomorrow}]]^{c,d}$ = the day after c^T.

But this predicts that in FID a narrator should use these items as referring to aspects of *his* context, and that is clearly wrong. In (34), for example, N doesn't attribute a thought to John that concerns the day after T, the time at which the narrator is narrating. But that is what we predict as soon as we consider

[10] Many expressives do not shift easily under *think* (no more easily than *today* and *tomorrow*, it seems to me) and do not "shift together" with the perspective terms that I considered above, and I would group them together with adverbs like *today* and *tomorrow*.

tomorrow to be dependent on the c-parameter, as you can verify by looking at (35)[11]. And, in fact, if you look at (36), our approach suggests that the sentence *Thank goodness today it was a holiday* should simply be unuseable, as the semantic value of the sentence is uncalculable (cf. (37)) – the indexical *today* can't semantically compose with the indexical *past*, which wants a time that precedes the time of c.

(34) John took a deep breath. Thank goodness he would be alone tomorrow.

N does not necessarily use this sentence at T in W to attribute a thought to John concerning the day after T.

(35) a. 1 [w_1 [$_\alpha$ X past] [t.g. [$_\gamma$ tomorrow woll [$_\beta$ Y masc W*] alone]]

b. For all c, d, $[[\gamma]]^{c, d}$ is defined only if $[[Y]]^{c, d}$ is male in c^W.
When defined, it is
λt: **the day after c^T** follows t. λw. $[[Y]]^{c, d}$ is alone on **the day after c^T** in w.

c. For all c, d, $[[(35a)]]^{c, d}$ is defined only if $[[Y]]^{c, d}$ is male in c^W, $[[X]]^{c, d}$ precedes c^T, the day after c^T follows $[[X]]^{c, d}$ and d^I is relieved at d^T in d^W that $[[Y]]^{c, d}$ is alone on the day after c^T.
When defined, it is λw. $[[Y]]^{c, d}$ is alone on **the day after c^T** in w.

d. Assuming that, for all d, $[[X]]^{<N,T,W>, d}$ is *U* and $[[Y]]^{<N,T,W>,d}$ is John,
[[(35a)]](<N,T,W>)

= λk: k^I is relieved at k^T in k^W that John is alone on **the day after T.**
λw. John is alone on **the day after T** in w.

(36) John turned off the alarm, fell back onto his pillow, and stared at the ceiling. Thank goodness today it was a holiday.

(37) a. … [today past] ...

b. We can't calculate the semantic value of (37a) ! For no c, d is $[[$ today past $]]^{c,d}$ calculable.

I think that this problem spells death for the kind of analysis we have developed – for the naïve approach on which all that is special about FID is pragmatics, in particular an approach on which FID makes use of the standard semantic values but in special ways. If we use the standard semantic values, we are not going to escape treating *today*, *tomorrow*, etc as interdependent with tense (and *I* and *you*). So here we reach the definitive limit. This is why the question of the workshop – how to treat indexicals in FID – is a very good question.

At the same time, I don't think that this necessarily forces us to the view that the standard semantic values are wrong. I said we would like to avoid that conclusion, and it seems to me that we could instead say something very specific about the syntax and semantics of FID. Here is one possibility. We already have two parameters of evaluation. Perhaps, in the case of words like *today*, the narrator is allowed to treat this word as having a different semantics, which depends on the d-

[11] To simplify matters, I treat *Thank goodness* here exactly the way I treated *At last* earlier.

parameter in the way in which the original word depends on the c-parameter – that is, to treat this word as a perspective term rather than an indexical.

(38) The narrator's special lexicon.

For any lexical item E other than tense features and 1/2 features (i.e. *I* and *you*),
if [[E]] = λ**c**. λd. f(**c**) then N is allowed to use another item E' identical in "form" such that
[[E']] = λc. λ**d**. f(**d**). (Below, I write these twin items in capitals.)

This breaks the interdependence we had between terms like *today* and *tomorrow* on the one hand, and terms like tense features, *I* and *you* on the other. We will no longer produce the semantic values that we produced before:

(34') John took a deep breath. Thank goodness he would be alone **TOMORROW**.

(35') a. 1 [w_1 [$_\alpha$ X past] [t.g. [$_\gamma$ **TOMORROW** woll [$_\beta$ Y masc W*] alone]]]

b. For all c, d, [[γ]]$^{c, d}$ is defined only if [[Y]]$^{c, d}$ is male in c^W.
When defined, it is
λt: **the day after d^T** follows t. λw. [[Y]]$^{c, d}$ is alone on **the day after d^T** in w.

c. For all c, d, [[(35'a)]]$^{c, d}$ is defined only if [[Y]]$^{c, d}$ is male in c^W, [[X]]$^{c, d}$ precedes c^T,
the day after d^T follows [[X]]$^{c, d}$ and d^I is relieved at d^T in d^W that [[Y]]$^{c, d}$ is alone on **the day after d^T**.
When defined, it is λw. [[Y]]$^{c, d}$ is alone on **the day after d^T** in w.

d. [[(35'a)]](<N,T,W>)
= λk: **the day after k^T** follows *U* and k^I is relieved at k^T in k^W that John is alone on **the day after k^T.** λw. John is alone on **the day after k^T** in w.

It is important to note, however, that it also has consequences for our FID rule. *Thank goodness he would be alone tomorrow* can report John's thought at *U* "Thank goodness I will be alone tomorrow." But now that we have our new narrator's *tomorrow* (*TOMORROW*, that is), look at the perspectival content we derive for these sentences in their respective contexts in (35'd) and (40c), and you will see they are a little different. Specifically, the perspectival content of *Thank goodness he would be alone TOMORROW* has a little condition related to *U* ("the day after k^T follows *U* and…") that results from the use of *past*.

(39) Thank goodness I will be alone tomorrow. (not N's sentence)

(40) a. 1 [w_1 [T* pres] [t.g. [tomorrow woll I alone]]]

b. For all c, d, [[(40'a)]]$^{c, d}$ is defined only if d^I is relieved at d^T in d^W that
c^I is alone on the day after c^T.
When defined, it is λw. c^I is alone on the day after c^T in w.

c. [[(40'a)]](<John,*U*,W>)
= λk: k^I is relieved at k^T in k^W that John is alone on
the day after *U*. λw. John is alone on the day after *U* in w.

Is this a problem? Well, there still is a connection between the two perspectival contents here: they yield the same proposition when evaluated at John's context <John, *U*, W>. This suggests that we should reformulate the FID rule so as to say merely that the proposition that N expresses in his context taking P's perspective is the proposition that P would express in *his* context taking his own perspective:

P1''. A narrator N may use S at time T in world W to communicate the following:

> P's thoughts (or...) at T' in W are such that, to express them, P could use a sentence S' such that $[[\ \Sigma_S\ ]]^{<N,T,W>,\mathbf{<P,T',W>}} = [[\ \Sigma_{S'}\ ]]^{<P,T',W>,\mathbf{<P,T',W>}}$.

This isn't unnatural, but it's a fairly weak condition: taken on its own, it allows *Thank goodness he would be alone tomorrow* to report John simply saying with relief to himself *I will be alone tomorrow*, and that does not seem right. (After all, the proposition we obtain after we get rid of the "perspective layer" is the same as the proposition we obtain from *Thank goodness I will be alone tomorrow*.) But maybe the solution to the faithfulness problem can help with that too.

Even then we would have one mystery remaining: what is behind the stipulation "other than tense features and 1/2 features" in the narrator's special lexical rule ? Maybe this should be connected to the existence of the constraints I mentioned earlier on the use of indexicals, but the issue deserves more thought.